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ABSTRACT

The patterns, extent, and problems of working at home in the United Kingdom were examined through a multivariate analysis of data from the Labour Force Survey, which has questioned respondents about the location of their workplace since 1992. The numbers of people working "mainly" at home increased from 345,920 (1.5%) in 1981 to 680,612 (2.5%) in 1998. Those working from home at least 1 day per week accounted for 3.5% of the employed workforce, with those working from home "sometimes" accounting for a further 22%. Higher occupational groups were overrepresented among those working mainly or sometimes at home. Three of five of those who work at home at least 1 day per week relied on computers and telecommunications to keep in touch with clients and colleagues. Approximately three-fourths of manual workers who work at home received low pay versus one-fifth of their conventionally located counterparts. Women accounted for 69% of those working mainly at home. Except in certain categories (which did not include manual work), ethnic minorities were underrepresented among those working at home. Women who worked mainly at home were more likely to report having dependent children. (The bibliography lists 51 references. Eight tables are included. Information on data availability and descriptions of variables are appended.) (MN)

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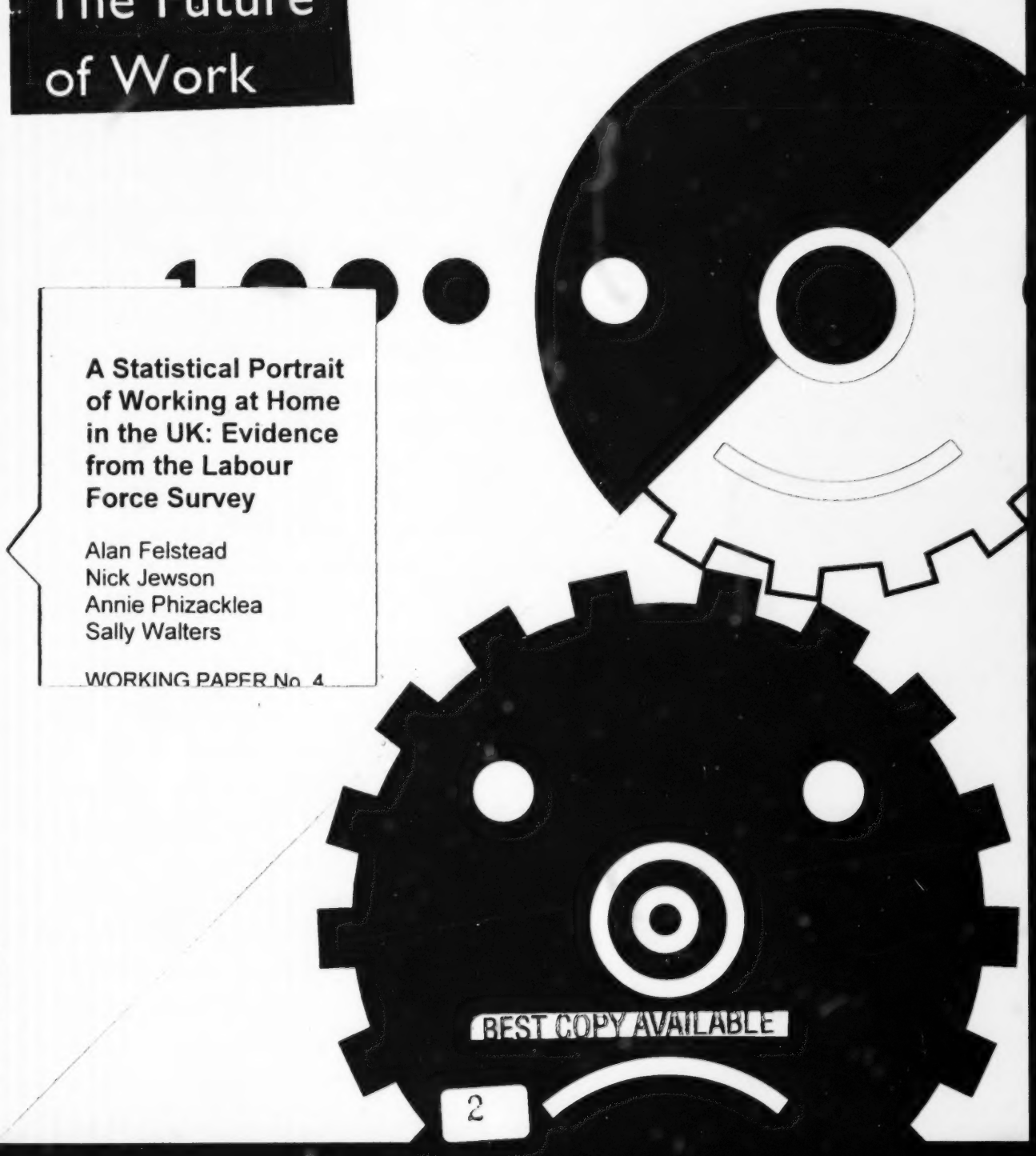

A Statistical Portrait of Working at Home in the UK: Evidence from the Labour Force Survey

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WORKING PAPER No. 4

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It is frequently suggested that working at home will be the future of work for many people in the UK. Two images of this future dominate popular commentaries on the subject. The pessimistic outlook draws on the historical imagery of homeworking as exploitative, lowly paid and carried out by women seeking to combine work with childcare as well as those disadvantaged in the labour market such as ethnic minorities. The optimistic scenario, on the other hand, draws on futuristic images of increasing swathes of the workforce being able to work wherever and whenever they choose via the use of the Internet, the mobile phone and the PC. For these people, working at home is seen as an enriching and liberating experience.

This paper confronts these stereotypes with hard empirical evidence from the Labour Force Survey (LFS) which has asked respondents questions about the location of their workplace since 1992. As a result, we now have the means to provide a national, up-to-date picture of those reporting to work at home. However, the analysis of these data has so far been piecemeal and limited. This paper aims to correct this deficiency by answering a series of frequently asked questions about the subject.

How Widespread Is Working At Home?

- The numbers working 'mainly' at home have risen dramatically over the 1981 to 1998 period – doubling from 345,920 (1.5%) in 1981 to 680,612 (2.5%) in 1998.
- Those working at home for at least one day a week ('partially') account for 3.5% of the employed workforce (or 932,364 individuals), while those reporting working 'sometime' at home account for a further 22%. In total, therefore, around a quarter of the UK workforce now carries out some of their work at home.
- Higher occupational groups are over-represented among the mainly and the sometimes working at home groups, while those lower down the occupational hierarchy are under-represented. Overall, non-manual occupations predominate – they account for around four-fifths of those who work at home to varying degrees, while accounting for around three-fifths of the employed population.

How Dependent Are Those Who Work At Home On Information & Communication Technology?

- Three out of five who work at home at least one day are reliant on keeping in contact with clients and colleagues via computers and telecommunications compared to just under a half of those working mainly at home. Not surprisingly, it is non-manual workers who are most dependent on these technologies.

Are Those Who Work At Home Low Paid?

- The incidence of low pay is alarmingly high among manual workers who work mainly at home – about three-quarters of them are low paid compared to a fifth of their more conventionally located counterparts. The incidence of low pay is also relatively high among non-manual employees who work mainly at home where it accounts for a fifth of their number.

- Multivariate analyses confirms that working mainly at home in whatever capacity is associated with a greater probability of being low paid – the odds increase by a factor of 10 for those working in manual jobs.

Do Those Who Work At Home Receive Lower Rates of Pay?

- Here, the picture is complex since it differs according to the non-manual/manual distinction. Non-manual workers who work mainly at home, on average, receive rates of pay well *above* their office-bound colleagues (£11.37 compared to £9.07). By contrast, manual workers, on average, receive rates of pay which are well *below* those received by their factory-based peers (£2.86 versus £5.49).
- This pattern is confirmed by multivariate analyses. After controlling for other factors considered to affect rates of pay, women who undertake non-manual jobs at home receive a 16% premium, while men's location of work makes little difference to the pay they receive. On the other hand, both female and male manual workers receive significantly lower rates of pay than their labour market experience would otherwise predict – a 46% and 28% loss respectively.

Are Women More Prone To Work At Home?

- Women outnumber men among those working mainly at home (69% versus 31%). However, the *opposite* is true among those who work at home less frequently. The gender balance tips dramatically in women's favour when the focus is on manual employees working mainly at home – in these circumstances, almost nine out of ten are women. This finding is statistically robust – even after holding all other factors constant, women are significantly more likely to work mainly at home whatever the type of job.

Are Ethnic Minorities More Prone To Work At Home?

- If anything, ethnic minorities are under-represented among those working at home. However, this conceals a complex picture in that they are over-represented among those mainly working at home in manual occupations, but are not particularly prone to be involved when all other factors are taken into account. Nevertheless, they are among the worst paid.

Are Ethnic Minority Women More Likely To Work At Home?

- Despite the above, ethnic minority women are, in some types of work, significantly more likely to work mainly at home. Surprisingly enough, manual work is *not* one of these categories.

Are Women With Children More Likely To Work At Home?

- For women there appears to be an association between working at home and childcare responsibilities. Women who work mainly at home are more likely to report having dependent children than peers who work elsewhere. This result is confirmed after controlling for other factors.

Overall, the analysis presented here provides some support for each of the images which commonly surround the discussion of working at home. This is not too surprising since stereotypes often contain an element of truth. Nevertheless, there are also areas which

are at odds with what we have been led to expect. In this way, it is hoped that the paper will stimulate and provoke further debate.

A STATISTICAL PORTRAIT OF WORKING AT HOME IN THE UK: EVIDENCE FROM THE LABOUR FORCE SURVEY

1. INTRODUCTION

The vision of more and more people working at home is an enduring feature of the popular debate about the future of work. Rarely a week goes by without at least one news item on the topic appearing in the national media (cf. TCA, various). These often focus on the experience and consequences of working at home for the individuals concerned and the organisations for which they work. The organisations involved range from well-known multinationals to small and relatively unknown back street businesses. The barrage of requests received by the Department for Education and Employment (DfEE) for data about working at home further attests to the interest and importance of the subject for labour market analysts (*Employment Gazette*, 1994: LFS4).

There is, therefore, a need for a reliable statistical portrait of people who work at home. However, conclusions based on regularly produced national data sets are problematic in various ways. On occasion, although thoroughly analysed, the data suffer from a number of inherent drawbacks. The 1991 Census and the associated Samples of Anonymised Records (SARs) fall into this category. Both the raw and edited census data for 1991 have been extensively analysed, while the SARs have been used to paint a more detailed picture of the characteristics of those reporting that they work 'mainly at home' (Felstead and Jewson, 1995 and 1996; Hakim, 1998: chapter seven). Furthermore, comparison with previous census records for 1971 and 1981 has provided a basis on which to track trends over time (cf. Hakim, 1980: 1105; Pugh, 1984 and 1990). However, the census material depends upon respondents ticking the 'works mainly at home' box when questioned about their means of travel-to-work. This results in imprecision about where the work is actually conducted since it tends to conflate those who work at and nearby home. This is a major drawback because a key feature of working at home is the overlap of the worlds of work and domestic life – the experience of being 'in work at home' (Felstead and Jewson, 2000). This is at its greatest when work is carried out in the spaces where people conduct their daily lives – bedrooms, kitchens, dining rooms and so on. Another problem is that census data are only collected once every ten years, thereby limiting their claims to provide an up-to-date portrayal of the phenomenon. Furthermore, the census is designed to cover a wide range of issues but

with a limited number of questions. Although it is possible to embellish the data with proxy information from other sources, direct labour market indicators are in short supply (see Hakim, 1998: chapter one).

Somewhat surprisingly, the Labour Force Survey (LFS), which suffers far less from these drawbacks, has only recently come to the fore, despite collecting data on this issue since 1992. Attempts have been made to operationalise various definitions of 'homeworking' and 'teleworking' using the LFS (Felstead, 1996; Huws *et al.*, 1999: 14-22; Mitel, 1999: Appendix C). However, elsewhere analysis has been restricted to statements (sometimes with tables) about the numbers working at home, the proportions in particular occupations and industries, and the pay rates received (eg, *Labour Market Trends*, 1999 and 2000; President of the Board of Trade, 1998: 141). Such cursory and incomplete treatments leave considerable scope for further analysis of the LFS and in particular the light it can shed on some of the controversies that bedevil debates about this form of employment. The aim of this paper is to provide such an analysis, thereby assembling a compendium of LFS-based evidence on working at home in the United Kingdom.

The paper is structured as follows. Section 2 outlines some of the key controversies in the working at home literature and highlights the hypotheses which the paper sets out to test. Section 3 discusses the nature of the LFS data, the procedures used and the protocols adopted in the analysis reported here. Sections 4 and 5 present the results of the analysis and reflect on the hypotheses which emerge from the literature. Section 4 is focused on the descriptive statistics, while Section 5 highlights the results of the multivariate analyses. Section 6 ends with a summary and makes some suggestions for future LFS-based research in this area.

2. ISSUES AND CONTROVERSIES

The working at home debate is characterised by two conflicting images (Felstead and Jewson, 1999 and 2000). On the one hand, there is the image is of a woman tied down by the needs of her family, exploited by her employer, with few or no skills and working for low wages on tedious, repetitive tasks. The most disadvantaged groups in the labour market – such as ethnic minorities – are seen as the most likely participants in this type of work. In addition, wages are erratic and their employment status is uncertain.

On the other hand, working at home is sometimes perceived in an entirely different light. In this scenario workers have the ability to exercise choice over their employment options, are in high paid jobs, more likely to be males and possess high level qualifications. This image is often portrayed as the future of work and one in which paid employment can be conducted by fax, telephone, email and computer links while at home. Many of the controversies which surround working at home are, to a large extent, inherent in the conflicts and contradictions these images generate. One way of resolving these conflicting accounts is to distinguish carefully between categories of people who work at home according to their social relations of production. What one finds is that the two images are in marked contrast to one another since they are based on workers who occupy entirely different positions in the production process. For example, those who work at home by selling the products of their labour directly to clients or end-users are in a fundamentally different position to those who receive a wage or salary in exchange for their labour. Similarly, within this group there are those with relatively *high discretion* and those with relatively *low discretion* jobs. The later we have defined in earlier work as homeworkers (Felstead and Jewson, 1997 and 2000). In this context, discretion refers to the extent to which qualities of judgement, problem-solving, decision-making and originality are key attributes of the labour process. Low discretion work is predictable, routine, standardised and rule-dominated. High discretion work is variable, complex, creative and choice-dominated. Discretion can, in practice, be roughly translated into a division of occupational types: in descending order, professional, managerial, craft, clerical and routine manual or more crudely, non-manual versus manual. However, these only represent a proximate mapping of the discretion levels involved. The hypotheses identified below are therefore addressed using this template of disaggregation.

Use of Information & Communications Technology

Ever since the advent of the word processor in the early 1980s there has been a keen interest in the link between technology and the ability to work in spaces and places previously separated from the workplace, most notably the home (Bisset and Huws, 1984; Huws, 1984). Subsequent developments in information and communication technology (ICT) have, if anything, made the blurring of home/work boundaries even greater. Through the use of email, workers can keep in close and personalised contact with clients, colleagues and supervisors despite geographical separation. Similarly, using the Internet workers can access from their homes massive databases and sources of

information held on network servers. The growth of ICT has been phenomenal. In 1990 there were 120 million personal computers (PCs) and 2.6 million Internet users worldwide. By 1998 these figures had risen to 370 million and 141 million respectively. Forecasters predict that there will be 670 million PCs and 450 million Internet users by 2002 (ITU, 1999). This kind of evidence has led to predictions that in the future more and more people will be working at home. For example, the Henley Centre estimates that a third (31.5%) of people in the UK will work at home to varying degrees by 2006 (Lees, 1999). For others, too, there is a strong link between working at home and ICT as the key facilitating device (eg, Huws *et al.*, 1999; Baines, 1999). According to one survey over 9 million Europeans actively use network technology to carry out their work away from the office – either on the move or at home (European Commission, 1999: chapter three). The hypothesis emerging from this evidence, then, is that the use of information and communications technology is strongly associated with those who work at home.

Consequences for Pay

The perception that working at home is synonymous with low pay and poor conditions of employment is commonplace among those convinced of the pessimistic scenario identified above. However, the research evidence in support of this view has rarely come from official national data sets since many of them do not collect useable pay data. Instead figures are largely drawn from smaller scale surveys, some of which have a local focus which have collected data by door-knocking, making direct appeals or chasing known points of contact.

Without doubt, pay rates are headlined by researchers and those who lobby on behalf of homeworkers. Survey after survey has shown that pay is low, both as measured against workers doing similar jobs and against standard indices of low pay. For example, in toy manufacturing, it was found that 82% of homeworkers in Britain earned less than the statutory minimum rates in force at the time (ACAS, 1978: 45). A survey of wages in the clothing industry found eight times as many homeworkers as on-site workers with rates of pay below the minimum specified for the industry (Hakim and Dennis, 1982). Some surveys have uncovered very low rates of pay indeed. For example, Brown (1974: 8-10) gave an example of a homeworker crocheting baby boots and another knitting Arran sweaters for just one-twentieth of the average hourly rate of pay for manual work at the time. This finding is corroborated by studies using a range of *different* ways of

collecting data. These include radio appeals (Brown, 1974), adverts in the printed media (Crine, 1979; Huws, 1984; Bisset and Huws, 1984), publicity campaigns (Huws, 1994; Phizacklea and Wolkowitz, 1995) and doorstep surveys (Hope *et al.*, 1976; Allen and Wolkowitz, 1987; Felstead and Jewson, 1996 and 1997). Similarly, the National Homeworking Survey of 1981 found that almost seven out of ten (69%) of those working at home in manufacturing were low paid according to a definition used at the time (Hakim, 1987: 106).

Taken together these studies suggest two senses in which homeworkers may be said to be poorly paid. The first compares their pay levels with those of the entire labour force. This is an *absolute* measure of pay which confirms that homeworkers are among the worst off. The second focuses on *relative* disadvantage by making comparisons with workplace-located peers. It is in this second sense that research in the US suggests that those who work at home in white-collar jobs enjoy poorer terms and conditions than those of their workplace-located counterparts. In this regard, they may be described as disadvantaged relative to their peers (Kraut and Grambsch, 1987). Thus, professionals and managers who work at home in high discretion occupations typically earn more than homeworkers (Hakim 1987). However, their remuneration may fall below that of office-located colleagues and their career opportunities may be narrower. Even in the optimistic scenario, then, working at home may be subject to a financial penalty.

Two main hypotheses emerge from this aspect of the literature. First, low pay is most likely to be found among homeworkers ie, their levels of absolute disadvantage are high. Second, all those who work at home in whatever capacity are likely to pay for the privilege in terms of reduced rates of pay compared to comparable others. This means that working at home is associated with relative disadvantage for all types of job.

Characteristics of Those who Work at Home

The identification of the social characteristics of those who work at home and the organisations for which they work has aroused intense debate. Some researchers assume rather than demonstrate that women are more likely to work at home (eg, Allen and Wolkowitz, 1987); others have a women-only focus (eg, Christensen, 1988; Dawson and Turner, 1989; O'Donnell, 1987); and there are some who remove men from their sample (eg, Presser and Bamberger, 1993). There is a strong presumption in the literature

therefore that working at home is predominately a female activity. The LFS allows us to test this hypothesis.

The issue of ethnicity has also excited heated debate. Many argue that migrants and members of ethnic minorities are over-represented among the most disadvantaged types of home-located production:

> 'In several industrialised countries home work is concentrated in industrial regions and in large urban areas where recent immigrants (often illegal) and ethnic minorities are concentrated' (ILO 1989: 7).

Local campaigning groups in Britain also claim that 'a significant proportion of whom [homeworkers] are from Black and minority ethnic groups' (Birmingham City Council 1993: 3). Much the same picture has been painted for many of Britain's cities (Elwin 1994: 8; Huws 1994: 5; Phizacklea and Wolkowitz 1995). The LFS allows us to test whether the association of ethnicity with working at home holds at the national level. It also allows us to test the supplementary hypothesis that women from ethnic minorities are even more prone to work at home particularly among the lowest paid jobs.

For many writers the heart of the gender issue concerns child care. It is very often argued that women take up what may be regarded as a disadvantaged form of employment because of their pressing need to combine earning an income with looking after a young family. This is assumed to be the reason for the presence of women, particularly among lower paid forms of home-located production which involve routine or low levels of skill – the definition of 'homeworkers' proposed by Felstead and Jewson (2000) and the one adopted here. Once again, the LFS provides a national data set on which to test this hypothesis.

Hypotheses

Attached to the issues discussed above are a number of distinct hypotheses which the LFS data can address. They are formally as follows:

> H1: Those working at home are more reliant on ICT to carry out their jobs.
> H2: Homeworkers, as we have defined them, are more likely to be low paid.
> H3: On average, those working at home receive rates of pay lower than comparable others.

H4: Women are more likely than men to work at home in whatever capacity.
H5: Ethnic minorities are more prone to work at home, especially if they are in homeworking occupations.
H6: The likelihood of working at home is higher for ethnic minority women, especially for those in manual grades.
H7: Women with dependent children are more likely to work at home, particularly if they are engaged in homeworking jobs as we have defined them.

The analysis reported in this paper sets out to test each of these hypotheses.

3. DATA SOURCE, PROCEDURES AND PROTOCOLS

This paper is based on an analysis of data collected as part of the LFS. Each LFS contains data on a random sample of individuals throughout the United Kingdom. Every quarter almost 60,000 households are contacted and information is collected on a total of 150,000 people. Of this total around 65,000 are 16 and above and are in work.

The design of the LFS involves an element of overlap between survey quarters. Each quarter's sample is made up of five waves, each consisting of about 12,000 households. Every sampled address in a wave is interviewed in five successive quarters, such that in any one quarter, one wave will be receiving their first interview, one wave their second and so on, with one wave receiving their fifth and final interview. Thus, there is an 80% overlap between successive quarterly surveys. Certain information is only collected at first interview – for example, date of birth and ethnic origin. Some data are collected at every interview. Yet other questions – such as those on working at home – are posed at specific intervals. Furthermore, some information is gathered at particular moments in the wave cycle – income data, for example, are collected at first and last interviews. The LFS is not, therefore, straightforward. As will be seen, this has implications for the conclusions that can be drawn from the data.

Since 1992, the LFS has distinguished between respondents working 'mainly' and 'sometimes' at home. An additional set of questions, added in Spring 1997, identified those who worked at home at least one full day in the week before interview. They also asked whether the use of a computer and telephone was involved. Answers to these questions, thus, enable us to specify three groups: those who work *mainly* at home, those who work *partially* at home (ie, at least one day a week), and those who work *sometimes* at home

It should be reiterated that these questions are not asked in every quarterly survey and there have been changes to the frequency of their inclusion (see Table A1). Nevertheless, by picking an appropriate LFS, a general picture of the extent and characteristics of those who, to a greater or lesser extent, work at home can be generated. Furthermore, given the size of the LFS, we are able to provide population estimates for those who work mainly, partially and sometimes at home. The results presented here are based on the Spring 1998 LFS, which contains observations on some 1,698 individuals who work mainly at home, 2,253 who do so on for at least one day a week (ie, partially) and 14,243 who sometimes wprk at home. However, breaking down these categories reduces the numbers of observations per cell and reduces their reliability. Advice from the Office for National Statistics (ONS) recommends suppression of data when the number of cases falls to 30 observations (or 10,000 if the data are weighted) (Jenkins, 1998). This protocol is adopted when presenting the results in Table 2 (* indicates suppression).

To operationalise conceptually derived types of home-located working requires further disaggregation. To avoid having to suppress even more data cells, it was decided to aggregate four alternate surveys (Sly, 1998). Therefore, the LFS for Spring 1997, Autumn 1997, Spring 1998 and Autumn 1998 were pooled. An unweighted sample of 263,023 working individuals aged 16 and over was created by these means. Of those working mainly at home, 4,159 defined themselves as self-employed and 2,168 considered themselves employees. The latter comprised 1,770 non-manual workers and 397 manual workers - categories which approximate to definitions of 'high discretion' and 'low discretion' home-located wage labour proposed elsewhere (Felstead and Jewson, 2000). When aggregating four alternate quarters, ONS suggests a publication threshold of 4,000 cases if the data are weighted to give a population estimate (or 48 individuals if unweighted) (Sly, 1999). This protocol is adopted in Table 3 (* indicates suppression).

Since the LFS contains information on various labour market indicators (such as industry, age, job tenure, part-time working and so on), details on work location and pay data it offers a unique opportunity to compare the pay of those who work at home with those who work elsewhere. Some of these results are presented in subsequent tables. However, in interpreting these results it is important to recall that information on pay is

based on a sub-sample of the quarterly LFS since this type of data is only collected on entry to the LFS (wave one) and on exit (wave five). Each LFS has around 18,500 pay data observations. Only those who define themselves as employees are asked about pay.

While the quality of the LFS pay data has been questioned (Wilkinson, 1998), the fact that more than four-fifths of those working mainly at home supply information in person is likely to enhance its accuracy. This compares to a 65% personal response rate among workplace-located employees. Nevertheless, we adopt advice from ONS which suggests that pay data are unreliable when the number of cases in a single LFS falls to 25 observations (or 30,000 if the data are weighted) (Jenkins, 1998). For aggregation of four alternate LFSs these figures equate to a threshold of 40 cases if unweighted or 12,000 if weighted. This protocol is adopted when reporting the pay results from the pooled data set which contains pay information from 74,155 interviewees. Of these, we have information on the pay on 681 employees who work at home, comprising 565 non-manual and 116 manual workers.

4. DESCRIPTIVE STATISTICS

The issues and hypotheses outlined in Section 2, and the technical procedures summarised in Section 3, provide the framework for the presentation of what are primarily descriptive statistics presented in what follows. This section therefore provides an overview of frequency tables derived from the LFS. Readers seeking more detail are directed towards the accompanying tables found towards the end of the paper.

Extent of Working at Home

The first task is to estimate the extent of the phenomenon. As we have seen, analysis of LFS data allows us to take a count of the numbers of people working at home on a *mainly, partial* or *sometimes* basis. This reveals that the numbers working mainly at home jumped over the 1981 to 1998 period – doubling from 345,920 (1.5%) in 1981 to 680,612 (2.5%) in 1998.

Unfortunately, similar comparisons over time in the numbers who partially and sometimes work at home are not possible because relevant data have only been collected since Spring 1997 and Spring 1992 respectively (see Table A1). However, figures for Spring 1998 suggest that those partially working at home account for 3.5% of the employed workforce (or 932,364 individuals). While many of these have a workplace to which they mainly report (62.7%), about a third (32.5%) work in different places throughout the working week (ie, their workplace is fluid and changeable). LFS data also suggest that in Spring 1998 some 21.8% of respondents sometimes worked at home. It has to be said that caution should be applied when interpreting figures for the sometime category – the question asked is open-ended and, by including the phrase 'unpaid work', differs from others asked about working at home (see Table 1, row 2). Nevertheless, overall the LFS suggests that, in total, more than a quarter of the UK workforce carries out some portion of their work at home.

Comparative LFS data are also available on the numbers of workers who report that they have no fixed place to carry out their work. It is not unreasonable to speculate that these people might well conduct some – although probably not most – of their work in the home. For example, we might expect them to arrange schedules, make preparations or keep books at home – even if most of their work, such as visiting clients and

colleagues, is carried out away from the home. Their number has tripled over the 1981 to 1998 period, rising from 641,900 to 1,824,154. Today, such mobile workers, as they are sometimes called, account for around 7% of those in employment and may include the growing numbers of people who work on the move.

Use of Information & Communications Technology

The extent to which those working at home are dependent on ICT has been invoked, in various ways, to operationalise the concept of 'teleworking' using the LFS data (*Labour Market Trends*, 1998 and 1999; Mitel, 1999; Huws *et al.*, 1999). While it is not our intention to follow suit, we do wish to comment on the association between working at home and ICT.

From the Spring 1998 evidence, it appears that those working at home on a partial basis are more dependent on technology as a facilitator of such a working arrangement than others. Just over three out of five (61.2%) of those who work at home on a partial basis use a telephone and computer to do so, compared to just under a half (49.5%) of those who work mainly at home. Furthermore, almost a half (46.8%) claim it would be impossible to work at home even for one day a week without the use of a telephone and a computer, whereas two out of five (39.3%) of those working mainly at home make a similar claim (see Table 1, row 3). However, the data do not allow comparisons to be made with the employed workforce as a whole since the technological dependence questions were only asked of those working at home on a mainly or partial basis. It is, therefore, impossible to use LFS data to test whether ICT is a correlate of working at home in multivariate analysis (see Section 5). However, if calls for the inclusion of questions on the use of ICT among the employed workforce (eg, Green *et al.*, 2000) are heeded, then analysis along these lines would become a real possibility.

Consequences for Pay

Until now only tantalising glimpses of the LFS pay data for those working at home are in the public domain. For example, the Low Pay Commission reported that a third of employees who work at home would benefit from the introduction of the National Minimum Wage (NMW), at the initial rate of £3.60 an hour (President of the Board of Trade, 1998: 141). Given the paucity of information on the pay rates of those

working at home (particularly on those we would regard as homeworkers), excavating the LFS pay data provides a unique research opportunity this paper seeks to exploit. However, this analysis is not straightforward, given the fact that pay data are only collected for a sub-sample of the survey (ie, those who regard themselves as 'employees') and are in waves one and five (see Section 3 and Table A1).

A comparative analysis of the pay of those working at home to varying extents reveals sharp differences. On average, those working at home for at least one day a week are better paid than both those who sometimes and mainly work at home (£13.28 an hour versus £12.01 and £10.85 respectively). All are, on average, better paid than employees in general who receive £7.79 an hour (see Table 1, row 4). However, a quarter (26.1%) of those who work mainly at home are lowly paid, double the proportion of low pay found among employees as whole (13.6%) and around six or seven times the proportion of those who work at home on a partial or sometime basis (see Table 1, row 4). The first of these findings is broadly in line with those of the Low Pay Commission, which was based on an earlier LFS.

While women who work mainly at home have a higher incidence of low pay (32.4%) than female employees more generally (18.8%), the difference for men is less marked (see Table 1, row 5). Working at home on a partial or sometimes basis appears to lessen the chances of being among the low paid for both men and women (see Table 1, row 5). However, women make up a high proportion of the lowly paid who work mainly at home – indeed over nine out of ten (91.9%) are women. Elsewhere the distribution of the low paid between the sexes broadly mirrors the pattern among employees in general (see Table 1, row 5).

Characteristics

No UK national data source other than the LFS permits an analysis of the characteristics of those who work at home to varying degrees. This provides an important research opportunity that is explored in what follows. At this point, our analysis is, once again, based on the Spring 1998 LFS.

The first set of characteristics we focus upon are the social attributes of those involved. The literature often suggests that working at home is predominately

undertaken by mothers with young children, the under-qualified, and members of ethnic minorities. However, the LFS paints a more complex and variegated picture. While the results suggest that women outnumber men among those working mainly at home (69.3% versus 30.7%), they also reveal that the opposite is true among those who work at home to a more limited extent (see Table 2, row 2). Similarly, the highest qualification held by people working at home varies dramatically. Those in the 'mainly' category are marginally better qualified than the employed population as a whole. However, those working partially, as well as those working sometimes, at home are better qualified – for example, about two out of five have degrees compared to an average figure of one in eight of those in work (see Table 2, row 9).

Frequency tables suggest that ethnic minorities are, if anything, under-represented among those who work at home to whatever degree. This under-representation is especially pronounced among the 'sometime' group (see Table 2, row 16). Similarly, the presence of dependent children appears to have little association with working at home. The proportions with no dependent children under 16 is around 60% across all the groups considered (see Table 2, row 17). Those with pre-school age children accou t f r a slightly greater proportion of those mainly working at home than average (see Table 2, row 18). However, more marked variation is evident when these data are analysed by gender. This reveals a strong association between dependent children and working at home but in a different direction for men and women – the one cancelling the other out. So, while the proportion of women with pre-school children or dependent children under 16 is far higher among those working mainly at home than women in employment, the reverse is true for men. This result is investigated further in the multivariate analysis reported in Section 5.

Job characteristics can also be analysed. According to the LFS evidence, higher occupational groups are over-represented among those who mainly and sometimes work at home, while those lower down the occupational hierarchy are under-represented. Those partially working at home are distributed more or less in accordance with the distribution of employment generally (see Table 2, row 3). However, data on the manual/non-manual divide suggest that non-manual occupations predominate among all groups who work at home – they account for around four-fifths of those who work at home to varying degrees while accounting for around three-fifths of the employed population in general (see Table 2, row 4). Employment status appears to be strongly

associated with the extent to which individuals work at home. Around three-fifths (61.9%) of those who mainly work at home consider themselves to be self-employed, whereas a third (32.3%) of those working partially, and only a quarter (23.8%) of those who work sometimes, at home define their employment status in similar terms (see Table 2, row 5). A majority (57.6%) of those who work mainly at home also report working part-time, whereas part-time working is less common among other categories of working at home and among the employed population in general. Yet all those who work at home to whatever extent are more likely to have hours that vary week by week (see Table 2, row 13). Working at home is also associated with higher than average job tenure. The use of the home as a workplace on a sometimes basis is reported by those with especially long job tenures (see Table 2, row 15).

Some of the characteristics of the organisations for which individuals work can also be gleaned from the LFS data at our disposal. For example, working at home tends to be over-represented in real estate and business services (this sector covers computer-related activities, management consultancy, accounting and the provision of legal advice). It is under-represented in manufacturing (see Table 2, row 8). This pattern is repeated across the mainly, partially and sometimes working at home categories. Similarly, working at home to whatever degree is more prevalent in the South East. Thus, the South East accounts for 41.2% of those who work mainly at home, compared to 32.2% of the employed workforce (see Table 2, row 14). However, working mainly at home tends to be a form of employment arrangement used predominately by small establishments in the private sector (see Table 2, rows 11 and 12).

Further Disaggregation

Yet more variation exists when the mainly working at home category is broken down into its constituent parts – self-employed, employees, non-manual employees and manual employees. These categories approximate to the conceptual categories of 'home-located petty commodity producers', 'home-located wage labourers', 'high discretion home-located wage labourers' and 'low discretion home-located wage labourers' (ie, homeworkers) proposed elsewhere (Felstead and Jewson, 2000). Table 3 compares different categories of home-located work and allows comparison to be made between individuals who have the same employment status and type of job but whose work

location differs (ie, mainly works at home versus mainly works elsewhere). This analysis reveals some noteworthy contrasts.

- Not surprisingly, disaggregation shows that it is among non-manual employees who work at home that reliance on ICT is greatest. Without use of a computer and telephone over half (50.8%) of them report that they would be unable to operate at home compared to around one in twenty (5.2%) manual employees (see Table 3, row 2).
- Non-manual workers who work mainly at home, on average, receive rates of pay well above their office-bound colleagues (£11.37 compared to £9.07). However, manual workers, on average, have rates of pay which are almost half of those who do not work at home (£2.86 versus £5.49) (see Table 3, row 3).
- The incidence of low pay is alarmingly high among manual workers who work at home – about three-quarters (75.9%) are low paid compared to a fifth (20.9%) of their more conventionally located counterparts. The incidence of low pay is also relatively high among non-manual employees who work at home, where it accounts for a fifth (21.4%) of their number (see Table 3, row 4).
- The overall gender composition of those who work mainly at home shifts dramatically when the category is disaggregated. Thus, while 69.3% of all those who work mainly at home are female, no less than 88.2% of manual employees who work mainly at home are women (see Table 3, row 5).
- Overall, those who work at home are slightly better qualified than the employed workforce as a whole (cf. Table 2, row 9). However, this global picture appears to disguise a more variegated pattern. For example, the self-employed who work at home are better qualified, manual employees have neither better nor poorer qualifications, and non-manuals are undoubtedly poorer qualified than their counterparts who work elsewhere (see Table 3, row 9).
- Despite problems of reporting working at home activity among ethnic minorities, the data do suggest that they are over-represented among manual employees where they make up 7.1% of the total but only 4.5% of manual employees who work elsewhere (see Table 3, row 16). Surprisingly, regions with above average concentrations of ethnic minorities in employment (West Yorkshire, West Midlands, Inner and Outer London) are not those in which ethnic minorities are over-represented in the homeworking labour force (although the number of cases falls below reliable levels,

see Section 3). Nevertheless, the small number of cases available suggests that ethnic minorities are among the worst paid.

- The association between pre-school age children and working at home is most pronounced among manual employees, but even here is not particularly strong. Parents with children under five years old comprise 14.5% of those working mainly at home, compared to 11.3% of those who work in more conventional settings (see Table 3, row 18). However, these differences are more pronounced when analysed by gender – the gap for women manual workers reaches almost six percentage points.

These results confirm the importance of separating out economic actors according to their social relations of production, if only by proxy. This strategy is pursued in the section which follows.

5. MULTIVARIATE ANALYSES

Descriptive statistics are only the first step in any thorough analysis. They do not provide definitive answers to the questions that guide this research – such as whether individuals pay for the privilege of working at home by making a wage sacrifice and the characteristics of those in work at home. The contrasts identified above could possibly be the result of unobserved correlations and associations that variables may have with each other. For example, the fact that pay rates for manual employees who mainly work at home are lower than those who work elsewhere might possibly be explained by the gender composition of the group rather than where the work is carried out. In other words, the impact of each explanatory variable needs to be assessed holding all other factors constant. Hence, the need for multivariate analysis – ordinary least squares (OLS) regression in the case of pay, and logistic regression for estimates of the probabilities of being among the low paid and the chances of taking up the working at home option. The results of each of set of multivariate analyses are presented below. All are based on the pooling of four alternate LFSs as described in Section 3.

Correlates of Pay

As is the convention, separate runs were carried out for women and men with the dependent hourly wage variable logged to enhance the reliability of the results. A range of control variables were entered in the same way into each of the OLS regressions (for

detail see Table A2). The resulting estimations are given in Tables 4 and 5. The controls behave as expected both in terms of sign and level of significance, and in most cases the models explain around half of the variation in hourly pay (as shown by the adjusted R^2).

The key results for our purposes are the signs on the 'at home' coefficient and the levels of significance recorded. These suggest that overall female employees who mainly work at home receive more or less the *same* rates of pay as their counterparts who work elsewhere (see Table 4, column 1). This is after accounting for other factors often considered to affect rates of pay (such as age, sex, qualifications, industry and occupational group). However, this result disguises differences between the fortunes of women in non-manual and manual jobs. On the one hand, women who undertake non-manual jobs at home receive *significantly higher* rates of pay than their office-bound counterparts – subsequent calculations suggest a 16% premium (see Table 4, column 2). While, on the other hand, manual women workers receive *significantly lower* rates of pay than their labour market experience and position would otherwise predict – this translates into a loss of 46% (see Table 4, column 3).

A different picture emerges for men. Male employees receive *significantly lower* rates of pay if they work at home. However, this is largely accounted for by manual employees whose wage rates drop by a *statistically significant* 28%, while an 'at home' location is associated with a statistically insignificant 5% drop among non-manuals (see Table 5, columns 1, 2 and 3).

Table 6 takes the analysis a step further by looking at the impact of working at home on the pay rates of selected occupations (this mirrors Kraut and Grambsch, 1987; Kraut, 1988). The small numbers involved forces us to combine women and men into one data set for these purposes, and has restricted the occupational groups and level of disaggregation for which the analysis is possible. Nevertheless, the results show that although some groups are well paid in absolute terms, for them working at home is associated with relatively poor pay in comparison with their office-located peers. Professionals, for example, on average receive £12.32 an hour for their labours, putting them in the top third of the pay distribution. However, professionals who work at home receive 68% of the pay they would receive *ceteris paribus* if they worked in a more conventional setting. Those working in personal and protective services can expect rates of pay below average wherever they work, but working at home depresses rates of pay

still further. On the other side of the coin, there are occupations for which working at home is associated with a pay uplift – examples include clerks, secretaries, typists and word processor operators (see Table 6). However, in all of these cases the results show associations between pay and work location which by themselves do not prove the existence of a casual link. For example, it could be that professionals who work at home are given lower skilled and more tedious tasks, while secretaries working at home are given activities which are more demanding and/or highly confidential and sensitive. To control for these influences would require more detail about the jobs individuals perform (cf. Ashton *et al.*, 1999). This information is at present not available in the LFS. However, the recommended expansion of the LFS may allow some of these data to be collected in future years (DfEE, 1999: 90-91).

Probabilities of Low Pay

The cross-tabulations reported in Section 4 suggest sizeable pockets of low pay among those working at home in whatever capacity. Estimating the influences on the probability of individuals being low paid requires a logistic regression model. The same independent variables as above were entered into the model with a dichotomous dependent variable set according to whether or not individuals fell below the £3.60 an hour threshold (the statutory minimum wage adopted in 1999) (see Table A2). Separate runs for women and men were carried out on sub-samples of employees, both non-manuals and manuals. The results show that in all six cases working at home *significantly raises* the probability of being low paid after controlling for a host of personal and employment-related factors. Among women manual workers working at home raises the odds of being low paid by a factor of ten, while among other groups the factor increase is between two and three (see Table 8).

These results cast a shadow on some of the upbeat regression findings, such as the suggestion that, on average, female non-manual workers do better and male non-manuals fare no worse if they work at home. While this may be so, their work location is associated with a greater probability of being low paid. Put another way, in all cases there are sizeable pockets of low pay among those who work at home that cannot be explained away by other observable factors in the data.

Logistic regression can also be used to isolate the impact that each independent variable (such as sex, age and education) has on the probability of someone working at home, holding all other factors constant. It can, for example, determine whether a woman is more likely than a man to do particular types of home-located work even though in all other respects they are identical (ie, same age, education level, etc). Alternatively, one can isolate whether certain characteristics have different effects on the probability of men or women working at home - the presence of children, for example.

The technique, then, promises much. However, multivariate analyses of this sort are few and far between. Such studies have been carried out in the US, New Zealand and Hong Kong, but – until now – none have been carried out in the UK (Kraut 1988; Presser and Bamberger 1993; Loveridge *et al.* 1996; Wong 1983). Once again, the LFS offers the basis on which to mount such an investigation.

The analysis allows us to comment on some of the hypotheses outlined earlier in the paper. The results are displayed in Table 8. The first major finding to note is the unambiguous confirmation that the odds of working at home are significantly higher for women than men, holding all other things constant. This applies to all types of home-located workers we are able to isolate by proxy in the data. The second finding is that women who have pre-school children are significantly more likely to work at home than either men or women without pre-schoolers. This is shown by a dummy variable which captures the interaction of gender with children aged under five years old.

A third and related finding is that the regressions indicate that gender also interacts with ethnicity to produce statistically significant effects. Ethnicity on its own is not significantly and positively related to the likelihood of working at home – indeed, the coefficients suggest the complete opposite. Yet, the interaction of gender and ethnicity suggests that the likelihood of employees working at home is higher for ethnic minority women. Nevertheless, the picture is not clear-cut. The interaction term for manual employees is positive but falls short of levels of statistical significance and therefore fails to provide robust statistical support for the hypothesis that ethnic minority women are more likely to be working at home if employed in manual work.

6. CONCLUSION

For a number of years the working at home literature in the UK has been bereft of national official data on which to draw. A question on workplace location was inserted into the LFS in Spring 1981, but it was then removed for eleven years until its reintroduction in 1992. Since then, a number of authors (eg, Huws *et al.*, 1999; Felstead, 1996) have begun to carry out analysis based on this new source of evidence. However, this paper has sought to take the process a step further by providing a compendium of LFS-based evidence on what is, according to many, an important aspect of the future of work in the new century.

The analysis has been organised around some of the key issues and controversies in the working at home debate. These include questions such as do those who work at home get paid less *ceteris paribus* than workplace-located workers, does the pay trade-off affect some types of home-located worker (and occupations) more than others, are particular groups (eg, women, ethnic minorities) more likely to work at home and are they more likely to do certain types of work. These have been summarised earlier in the paper as seven hypotheses. The analysis reported in the bulk of the paper provides LFS evidence on each of them. The aim here is to summarise the answers given.

However, a prior question regarding the extent and growth of the phenomenon needs to be addressed since previous discussions have been set in the context of wild and fanciful predictions about the growth of working at home which have failed to materialise. The LFS gives an opportunity provide a sober account of its prevalence and recent growth. The paper shows that the numbers working 'mainly' at home have risen dramatically over the 1981 to 1998 period – doubling from 345,920 (1.5%) in 1981 to 680,612 (2.5%) in 1998. Those working at home at least one day a week ('partially') account for 3.5% of the employed workforce (or 932,364 individuals), while those reporting working 'sometime' at home account for a further 21.8%. It has to be said that caution should be applied when interpreting figures for the sometime category – the question asked is open-ended and, by including the phrase 'unpaid work', differs from others asked about working at home. Nevertheless, overall the LFS suggests that, in total, more than a quarter of the UK workforce carries out some portion of their work at home. Further analysis reveals that the higher occupational groups are over-represented among the mainly and the sometimes working at home groups, while those lower down

the occupational hierarchy are under-represented. Overall, non-manual occupations predominate – they account for around four-fifths of those who work at home to varying degrees, while accounting for around three-fifths of the employed population.

The first major hypothesis addressed is that ICT is a key facilitator of working at home. The LFS evidence suggests that those working at home on a partial basis are more dependent on technology as a facilitator of such a working arrangement than others. Just over three out of five (61.2%) of those who work at home on a partial basis use a telephone and computer to do so, compared to just under a half (49.5%) of those who work mainly at home. Furthermore, almost a half (46.8%) claim it would be impossible to work at home even for one day a week without the use of a telephone and a computer, whereas two out of five (39.3%) of those working mainly at home make a similar claim. However, the data do not allow comparisons to be made with the employed workforce as a whole since the technological dependence questions were only asked of those working at home on a mainly or partial basis. Not surprisingly, it is non-manual workers who are most dependent on these technologies. However, almost half of them report that they *can* work without the use of the telephone and computer. Working at home is therefore not simply related to technology.

The second hypothesis is that those who work at home suffer from absolute disadvantage in terms of the pay they receive. The LFS evidence offers support for this hypothesis. The incidence of low pay is alarmingly high among manual workers who work mainly at home – about three-quarters of them (75.9%) are low paid compared to a fifth of their more conventionally located counterparts (21.9%). The incidence of low pay is also relatively high among non-manual employees who work mainly at home where it accounts for a fifth of their number (21.4%). Multivariate analyses confirms that working mainly at home in whatever capacity is associated with a greater probability of being low paid – the odds increase by a factor of 10 for those working in manual jobs.

A third and related hypothesis is that those working at home receive lower rates of pay than those working in more conventional settings. Our LFS analysis both contradicts and supports this notion of relative disadvantage. The descriptive statistics, for example, show that non-manual workers who work mainly at home, on average, receive rates of pay well *above* their office-bound colleagues (£11.37 compared to £9.07). In contrast, manual workers, on average, receive rates of pay which are well *below* those who do not

work at home (£2.86 versus £5.49). This pattern is confirmed by multivariate analyses. After controlling for other factors considered to affect rates of pay, women who undertake non-manual jobs at home receive a 16% premium, while men's location of work makes little difference to the pay they receive. On the other hand, both female and male manual workers receive significantly lower rates of pay than their labour market experience would otherwise predict – a 46% and 28% loss respectively.

In some circles it is almost axiomatic to assume that working at home is predominately a female activity – this forms our fourth hypothesis. Once again, the picture is not always clear-cut and unambiguous. While women outnumber men among those working mainly at home (69% versus 31%), the *opposite* is true among those who work at home less frequently. The gender balance tips dramatically in women's favour when the focus is on manual employees working mainly at home – in these circumstances, almost nine out of ten are women. This finding is statistically robust – even after holding all other factors constant, women are significantly more likely to work mainly at home whatever the type of job.

Similarly, some writers in the field associate working at home with ethnic minorities – this comprises our fifth hypothesis. Yet, the frequency evidence suggests, if anything, that ethnic minorities are under-represented among those working at home. However, this conceals a complex picture in that they are over-represented among those mainly working at home in manual occupations, but are not particularly prone to be involved when all other factors are taken into account. Nevertheless, they are among the worst paid. In spite of this evidence, we do find backing for our sixth hypothesis that ethnic minority women are more likely to work mainly at home. This finding emerges from multivariate analyses, although it only refers to particular types of jobs and surprisingly enough, manual work is *not* one of them.

Our final hypothesis is that women with childcare responsibilities are more likely to work at home in order to juggle and meet the demands of both aspects of their lives. For men, childcare responsibilities appear unrelated to the location of their work. However, women who work mainly at home are more likely to report having dependent children than women who work elsewhere. This result is confirmed after controlling for other factors and is statistically significant for all types of job.

The paper also highlights opportunities for further work. Two are worth mentioning, but there are many more. First, the results reported here are based on data collected before the introduction of the National Minimum Wage (NMW) of £3.60 an hour (April 1999). It is not surprising therefore that on this criterion sizeable proportions of those working at home are poorly paid. However, the post-1999 situation may be different. This may have consequences for pay differentials between those working at home and those carrying out work elsewhere. Second, the collection of data on those working mainly, partially and sometimes at home offers opportunities for further research since it begins to capture the notion that the spaces and places of work may be becoming more fluid. One obvious piece of analysis would be to model the determinants of individuals taking up one or other of these employment options. The cross-tabular analysis would suggest that gender plays an important role with women being more likely to work mainly at home and men being more likely to work at home for some of the time (cf. Presser and Bamberger, 1993). These are just two examples further analysis which could be carried out. It is hoped that labour market researchers interested in working at home will seize the opportunities that the LFS provides, thereby advancing and deepening our knowledge about this important aspect of the future of work. This paper may help to stimulate and provoke such a response.

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TABLE 1:
NUMBERS, TECHNOLOGICAL DEPENDENCE AND PAY OF THOSE WHO WORK AT HOME TO VARYING EXTENT

Characteristic	Mainly Working at Home (column %)[1]	Partially Working at Home (column %)[2]	Sometimes Working at Home (column %)[3]	Employed Workforce (column %)
Extent of Phenomenon				
Numbers recorded as working in this way in main job (%)	680,612 (2.5%)	932,364 (3.5%)	5,864,379 (21.8%)	26,947,448 (100.0%)
Use of Technology				
Use of both telephone and computer to work	49.5%	61.2%	NA	NA
Not possible to work without telephone and computer	39.3%	46.8%	NA	NA
Pay				
Average hourly pay rates[4]	£10.85	£13.28	£12.01	£7.79
Incidence of low pay[5]	26.1%	4.5%	3.7%	13.7%
Distribution of Low Pay				
Incidence of low pay among women	32.4%	3.6%	5.1%	18.8%
Incidence of low pay among men	8.2%	5.8%	2.7%	9.1%
Female proportion of the low paid	91.9%	65.0%	57.3%	64.9%
Male proportion of the low paid	8.1%	35.0%	42.7%	35.1%

Notes:

1. Working mainly at home is defined as those individuals who responded in the affirmitive to the LFS question: '(In your main job) do you work mainly ... in your own home?' The figures reported here have been weighted to produce population estimates. All those aged 16 and over in paid work in the UK are included in this and subsequent tables. Non-contactable individuals to the Spring 1998 survey have not been reallocated pro rata according to those who did respond (cf. Felstead, 1996; *Labour Market Trends*, August 1997: LFS43).
1. 'Partially working at home' is derived from the LFS question: '... have you spent at least one FULL day in the seven days ending Sunday [date] working ... in your own home?' Respondents answering in the affirmitive are deemed to be 'partially working at home' provided they do not spend most of their working time at home. This ensures that two distinct groups are identified: those working mainly at home (column 1); and those working partially at home (column 2).
1. 'Sometimes working at home' is defined as those individuals who responded in the affirmitive to the LFS question: 'Do you ever do any paid or unpaid work at home for your (main) job?' This group of individuals does not include those who work mainly at home nor those who report working at home for one full day in the week before interview. In other words, the group does not overlap with those who work mainly at home (column 1) or those who work at home on partial basis (column 2).
1. For this the hourly pay variable in the QLFS Spring 1998 was used and the data were weighted according to the weighting variable provided. Pay data was only collected for those who considered themselves to be employed. The results presented in this table, therefore, focus on employees only.
1. We take hourly pay rates of below £3.60 as 'low pay'.

Source: own calculations from the Quarterly Labour Force Survey, Spring 1998.

TABLE 2:
CHARACTERISTICS OF THOSE WHO WORK AT HOME TO VARYING EXTENT

Characteristic[1]	Mainly Working at Home (column %)[2]	Partially Working at Home (column %)[3]	Sometimes Working at Home (column %)[4]	Employed Workforce (column %)
Sex				
Women	69.3	36.2	37.1	44.7
Men	30.7	63.8	62.9	55.3
Occupation				
Managers & administrators	21.4	15.6	31.6	16.1
Professionals	11.5	9.6	27.5	10.5
Associate professionals and technical	17.9	9.8	13.4	10.0
Clerical & secretarial	23.2	15.4	6.6	15.0
Craft & related	5.1	12.4	8.7	12.2
Personal & protective service	13.7	11.2	3.9	10.9
Sales	2.9	7.9	4.9	7.8
Plant & machinery	2.7	9.7	1.9	9.4
Other occupations	1.5	8.3	1.5	8.0
Type of Job[5]				
Manual	23.1	11.3	15.2	39.9
Non-manual	76.9	88.4	84.4	59.7
Employment Status				
Employee	32.0	67.3	75.9	86.9
Self-employed	61.9	32.3	23.8	12.1
Unpaid family worker	6.1	*	0.3	0.4

Type of Work Organisation				
Family buisness	29.2	NA	NA	NA
Outside firm or organisation	18.4	NA	NA	NA
On own account	52.4	NA	NA	NA
Age				
16-25	5.2	3.4	5.1	16.6
26-35	18.0	23.5	26.1	26.7
36-45	25.9	32.3	31.2	24.7
46-55	27.0	28.6	27.8	21.7
56-65	16.5	10.3	8.5	8.9
65+	7.4	2.0	1.3	1.3
Average age	46.1 years	41.7 years	42.9 years	38.8 years
Industry				
Agriculture	3.0	2.8	2.7	1.7
Fishing	*	*	*	0.1
Minining & quarrying	*	*	0.2	0.4
Manufacturing	13.8	11.7	13.3	18.5
Electricity, gas & water	*	*	0.7	0.7
Construction	6.3	6.7	7.9	7.0
Wholesale & retail	8.4	10.2	10.7	15.3
Hotels & restaurants	4.6	2.2	2.0	4.6
Transport & storage	2.9	3.5	4.2	6.5
Financial	*	4.7	5.6	4.4
Real estate & business services	25.7	17.4	14.9	10.3
Public administration	*	3.5	5.8	5.8
Education	4.2	21.5	16.9	7.6
Health & social work	15.2	7.6	9.6	11.0
Other community	9.9	7.2	5.1	5.4
Highest Qualification				
Degrees or equivalent	19.7	41.0	35.8	15.6
Other HE qualifications	10.2	13.5	14.9	9.4
Post-secondary	18.2	21.6	22.7	24.3
Secondary	39.0	19.3	21.5	36.8
No qualifications	12.9	4.6	5.2	13.9

Marital Status				
Single, never married	13.1	31.3	20.5	30.9
Married or living as such	78.1	58.1	69.1	58.5
Married but separated	1.7	2.5	2.4	2.5
Divorced	5.0	6.7	6.8	6.7
Widowed	2.1	1.4	1.1	1.4
Size of Establishment				
1-10 employees	84.0	25.1	20.8	21.0
11-19 employees	4.5	8.2	8.6	9.2
20-24 employees	*	2.7	4.1	4.0
Don' t know but under 25 employees	*	*	1.2	1.8
25-49 employees	1.7	12.5	12.5	11.6
Don't know but over 25 employees	*	1.7	1.2	1.6
50 or more employees	6.7	48.8	51.6	50.8
Sector				
Private	96.5	72.3	70.9	77.2
Public	3.5	27.7	29.1	22.8
Hours of Work				
Average usual hours (excl. overtime)	31.8	37.1	36.2	35.7
Full-time	42.4	74.7	86.1	75.1
Part-time	57.6	25.3	13.9	24.9
Varied weekly hours	73.4	77.5	70.6	47.8
Region				
Tyne & Wear	*	1.6	1.4	1.7
Rest of North	1.9	2.4	2.6	3.1
South Yorkshire	1.7	2.0	1.8	2.0
West Yorkshire	2.6	2.9	3.4	3.6
Rest of Yorkshire & Humberside	2.5	2.4	2.5	2.8
East Midlands	8.2	6.1	6.9	7.4
East Anglia	4.7	4.3	4.1	3.9
Inner London	6.2	5.4	4.9	4.3
Outer London	9.0	8.0	7.2	7.6
Rest of South East	26.0	24.9	23.6	20.3

South West	11.6	8.9	9.5	8.7
West Midlands (Metropolitan county)	2.0	3.4	3.6	4.2
Rest of West Midlands	4.7	5.5	5.1	4.9
Greater Manchester	2.4	3.7	3.9	4.2
Merseyside	*	2.2	1.7	1.9
Rest of North West	3.5	3.3	4.0	4.0
Wales	3.1	4.8	4.3	4.5
Strathclyde	1.6	2.8	2.8	3.5
Rest of Scotland	4.8	4.8	4.7	5.0
Northern Ireland	2.6	*	1.9	2.5
Job Tenure				
Average in months	105.6	116.6	122.1	95.9
Ethnicity				
White	96.8	96.5	97.1	95.1
Ethnic minority	3.2	3.5	2.9	4.9
Number of Dependent Children (Under 16)[6]				
None	59.6	58.9	58.2	60.0
1	13.9	17.6	17.3	17.2
2	18.9	17.9	18.7	16.9
3	6.4	5.0	4.9	4.8
4 or more	*	*	0.9	1.1
Number of Dependant Children (Under 5)[7]				
None	86.9	90.4	88.2	88.3
1	12.4	8.4	10.7	10.7
2	*	1.2	1.1	1.0
3 or more	--	--	--	--

Notes:

1. ONS recommended publication thresholds have been applied. Where the number of weighted cases in a category falls below 10,000 cases (or 30 LFS respondents) the data have been suppressed (James, 1998; Sly, 1998).
2. Working mainly at home is defined as those individuals who responded in the affirmitive to the LFS question: '(In your main job) do you work mainly ... in your own home?' The figures reported here have been weighted to produce population estimates. All those aged 16 and over in paid work in the UK are

included in this and subsequent tables. Non-contactable individuals to the Spring 1998 survey have not been reallocated pro rata according to those who did respond (cf. Felstead, 1996; *Labour Market Trends*, August 1997: LFS43).

3. 'Partially working at home' is derived from the LFS question: '... have you spent at least one FULL day in the seven days ending Sunday [date] working ... in your own home?' Respondents answering in the affirmitive are deemed to be 'partially working at home' provided they do not spend most of their working time at home. This ensures that two distinct groups are identified: those mainly working at home (column 2); and those partially working at home (column 3).
4. 'Sometimes working at home' is defined as those individuals who responded in the affirmitive to the LFS question: 'Do you ever do any paid or unpaid work at home for your (main) job?' This group of individuals does not include those who work mainly at home nor those who report working at home for one full day in the week before interview. In other words, the group does not overlap with those who work mainly at home or those who work at home on partial basis.
5. These figures do not always add up to 100% since they exclude members of the armed forces who report working at home one day a week (column 3) or ocassionally (column 4). The same applies to the employed workforce (column 5).
6. The figures here use head of household/spouse of head as a filter since around 13.8% of the sample are themselves dependent children (under the age of 16).
7. See note 6 for filter conditions.

Source: own calculations from the Quarterly Labour Force Survey, Spring 1998.

TABLE 3:
CHARACTERISTICS OF THOSE WHO MAINLY WORK AT HOME BY EMPLOYMENT STATUS AND TYPE OF JOB

Characteristic[1]	Self-Employed		Employees		Non-Manual Employees		Manual Employees	
	Mainly Work At Home	Mainly Work Else-where	Mainly Work At Home	Mainly Work Else-where	Mainly Work At Home	Mainly Work Else-where	Mainly Work At Home	Mainly Work Else-where
Use of Technology								
Use both telephone & computer to work	45.7	NA	49.5	NA	59.9	NA	7.3	NA
Not possible to work without telephone & computer	34.8	NA	41.8	NA	50.8	NA	5.2	NA
Pay								
Gross hourly rates[2]	--	--	£9.81	£7.66	£11.37	£9.07	£2.86	£5.49
Incidence of Low Pay								
< £3.60 per hour	--	--	31.4	14.1	21.4	9.1	75.9	21.9
Sex								
Women	65.7	21.6	77.2	49.0	74.8	56.9	88.2	37.6
Men	34.3	78.4	22.8	51.0	25.2	43.1	*	62.4
Type of Work Organisation								
Family buisness	16.4	10.1	46.0	6.4	54.2	5.7	*	8.9
Outside firm or organisation	8.2	12.2	40.6	85.6	35.3	86.7	62.8	81.6
On own account	75.4	77.7	13.4	8.1	10.5	7.7	25.7	9.5
Age								
16-25	2.4	4.6	7.9	17.1	3.7	15.3	26.7	20.0
26-35	17.2	20.6	18.1	26.7	17.7	28.3	19.9	24.1
36-45	29.2	27.7	24.8	24.8	25.7	26.0	20.7	23.0
46-55	27.5	28.3	25.9	22.0	27.8	22.7	17.4	21.0
56-65	16.5	14.9	16.6	8.5	18.3	7.1	*	10.7
65+	7.2	3.9	6.7	0.9	6.8	0.8	*	1.2
Average age	46.7	44.6	45.2	38.5	46.6	38.5	37.8	38.5

Industry								
Agriculture	2.4	8.2	*	0.9	*	0.4	*	1.7
Fishing	*	0.4	*	*	*	*	*	0.0
Minining & quarrying	*	*	*	0.4	*	0.3	*	0.6
Manufacturing	12.9	7.1	16.7	20.1	12.0	13.5	37.5	30.5
Electricity, gas & water	*	0.2	*	0.8	*	0.8	*	0.7
Construction	3.2	22.9	10.0	5.0	12.1	3.1	*	7.9
Wholesale & retail	7.8	16.2	11.9	15.5	13.7	19.7	*	9.2
Hotels & restaurants	6.8	4.6	*	4.5	*	1.8	*	8.9
Transport & storage	1.7	7.0	4.1	6.5	5.0	4.7	*	9.4
Financial	*	1.5	2.3	4.7	2.8	7.6	*	0.3
Real estate & business services	24.6	14.6	24.0	9.0	28.8	11.4	*	5.3
Public administration	*	0.3	2.6	6.8	2.9	9.2	*	2.1
Education	4.4	2.4	3.0	8.5	3.5	10.1	*	6.3
Health & social work	20.2	4.5	10.8	12.1	8.8	13.3	19.6	10.4
Other community	12.6	8.2	5.6	4.7	5.9	3.9	*	5.9
Highest Qualification								
Degrees or equivalent	22.0	15.0	15.9	15.1	18.9	23.8	*	1.8
Other HE qualifications	11.2	7.1	10.4	9.7	11.6	13.8	*	3.3
Post-secondary	18.6	34.4	17.9	23.3	18.6	20.6	14.6	27.4
Secondary	37.2	26.6	40.0	37.8	37.3	34.3	52.0	43.4
No qualifications	11.0	16.9	15.8	14.0	13.5	7.5	26.3	24.1
Marital Status								
Single, never married	11.5	17.7	12.5	30.6	7.1	29.7	36.5	32.2
Married or living as such	77.4	71.1	80.0	58.7	86.4	59.8	51.4	56.7
Married but separated	1.7	2.4	*	2.5	*	2.6	*	2.4
Divorced	6.5	7.2	4.3	6.8	3.6	6.7	*	7.1
Widowed	2.9	1.6	*	1.4	*	1.2	*	1.6
Size of Establishment								
1-10 employees	89.3	79.6	81.5	18.2	80.6	17.3	86.0	19.7
11-19 employees	5.8	9.8	4.3	9.2	4.9	8.8	1.1	9.9
20-24 employees	1.2	2.6	*	4.2	*	4.0	*	4.6
Don' t know but under 25 employees	0.8	0.9	*	1.7	*	1.1	*	2.7
25-49 employees	2.1	3.6	2.5	12.0	*	11.5	*	12.8
Don't know but over 25 employees	*	0.3	*	1.5	*	1.3	*	1.9
50 or more employees	*	3.3	8.5	53.2	8.6	56.0	*	48.3

Sector								
Private	100.0	100.0	90.2	73.2	91.6	68.2	83.8	81.7
Public	0.0	0.0	9.8	26.8	8.4	31.8	16.2	18.3
Hours of Work								
Average usual hours (excl. overtime)	31.0	43.7	23.4	33.9	22.0	34.1	30.2	33.5
Full-time	49.7	82.6	32.8	74.3	31.7	75.3	37.8	72.4
Part-time	50.3	17.4	67.2	25.7	68.3	24.7	62.2	27.6
Varied weekly hours	75.3	72.0	72.1	47.8	74.9	50.0	62.6	43.9
Region								
Tyne & Wear	*	1.1	*	1.8	*	1.6	*	2.0
Rest of North	2.5	3.0	*	3.4	*	3.0	*	4.0
South Yorkshire	1.1	1.7	*	2.1	*	1.9	*	2.5
West Yorkshire	2.1	3.2	3.1	3.6	3.2	3.4	*	4.0
Rest of Yorkshire & Humberside	3.0	2.9	*	2.8	*	2.5	*	3.2
East Midlands	6.5	6..6	8.2	7.4	8.1	6.8	*	8.4
East Anglia	4.8	3.8	4.8	3.9	4.4	3.7	*	4.2
Inner London	5.2	3.8	3.6	3.3	*	3.9	*	2.4
Outer London	8.9	7.6	8.0	6.9	7.7	8.2	*	5.0
Rest of South East	25.8	22.4	27.9	19.7	28.5	21.9	24.9	16.2
South West	12.5	10.1	11.3	8.2	11.9	8.0	*	8.3
West Midlands (Metropolitan county)	2.6	3.2	2.5	4.4	*	4.0	*	5.2
Rest of West Midlands	4.6	5.3	6.2	5.0	6.4	4.8	*	5.5
Greater Manchester	2.6	3.3	2.4	4.1	*	4.0	*	4.2
Merseyside	*	1.6	*	2.0	*	2.1	*	2.0
Rest of North West	3.1	4.0	3.7	4.2	3.4	4.0	*	4.4
Wales	3.0	4.9	3.0	4.4	3.2	4.0	*	5.1
Strathclyde	1.5	2.6	*	3.9	*	3.9	*	4.1
Rest of Scotland	5.5	5.0	3.6	5.4	3.8	5.2	*	5.7
Northern Ireland	3.0	3.9	2.7	3.4	2.7	3.1	*	3.7
Job Tenure								
Average in months	109.2	138.6	97.4	91.6	106.0	96.0	59.3	83.8
Ethnicity								
White	97.4	95.2	96.8	95.6	97.6	95.6	92.9	95.5
Ethnic minority	2.6	4.8	3.2	4.4	2.4	4.4	7.1	4.5

Number of Dependent Children (Under 16)[3]								
None	57.6	60.2	57.9	59.6	57.7	60.1	58.7	59.1
1	13.6	15.6	15.7	17.5	15.9	17.6	14.7	17.3
2	21.1	16.9	17.5	17.1	17.8	17.2	15.8	16.8
3	6.2	5.7	7.9	4.7	7.5	4.3	*	5.3
4 or more	1.6	1.6	*	1.0	*	0.8	*	1.4
Number of Dependant Children (Under 5)[4]								
None	86.8	88.9	86.5	88.5	86.7	88.4	85.5	88.7
1	12.0	10.1	12.1	10.5	11.8	10.5	13.7	10.2
2	1.2	0.9	*	1.0	*	1.0	*	1.0
3 or more	*	0.0	*	0.0	*	0.0	*	0.0

Notes:

1. ONS recommended publication thresholds have been applied. Where the number of unweighted cases in the combined data set falls to 48 for any one category the data have been suppressed (Sly, 1999).
2. The pay data is weighted so as to take into account the fact that pay data are only collected in Waves 1 and 5 of the LFS. However, elsewhere in this table calculations have been based on the unweighted data. A suppression rule of 12,000 cases (40 unweighted cases) has been applied.
3. The figures here use head of household/spouse of head as a filter since around 13.4% of the sample are themselves dependent children (under the age of 16).
4. See note 2 for filter conditions.

Source: pooled data from Spring 1997, Autumn 1997, Spring 1998 and Autumn 1998 Quarterly Labour Force Surveys, own calculations.

TABLE 4:
CORRELATES OF PAY: WOMEN
(Ordinary Least Squares Regressions)

Variables	Employees (1)	Non-Manual Employees (2)	Manual Employees (3)
Work Location			
Mainly at home	3.2302×10^{-4} (0.0181)	0.1480*** (0.0203)	-0.6248*** (0.0397)
Personal Controls			
Age	0.0337*** (0.0012)	0.0416*** (0.0016)	0.0194*** (0.0020)
Age squared	-3.8968×10^{-4}*** (1.5297×10^{-5})	-4.8181×10^{-4}*** (1.9305×10^{-5})	-2.1927×10^{-4}*** (2.4700×10^{-6})
Married	0.0014 (0.0052)	0.0059 (0.0062)	-0.0119 (0.0093)
Ethnic minority	-0.0597*** (0.0112)	-0.0573*** (0.0134)	-0.0378* (0.0198)
Children under 16	-0.0075 (0.0056)	-0.0226 (0.0067)	0.0183* (0.0100)
Children under 5	0.0590*** (0.0081)	0.0736*** (0.0096)	0.0316** (0.0146)
Qualification dummies[1]	Yes	Yes	Yes
Employment-Related Controls			
Job tenure	0.0015*** (7.0597×10^{-5})	0.0015*** (8.2182×10^{-5})	0.0015*** (1.3660×10^{-4})
Job tenure squared	-2.2307×10^{-6}*** (2.1667×10^{-7})	-1.9864×10^{-6}*** (2.4822×10^{-7})	-3.0810×10^{-6}*** (4.3852×10^{-7})
Part-time	-0.0490*** (0.0051)	-0.0592*** (0.0061)	-0.0335*** (0.0090)
Private sector	-0.0925*** (0.0069)	-0.0574*** (0.0087)	-0.1653*** (0.0115)
Industry dummies[1]	Yes	Yes	Yes
Occupational dummies[1]	Yes	Yes	Yes
Size of workplace dummies[1]	Yes	Yes	Yes

Other Controls			
Regional dummies[1]	Yes	Yes	Yes
Constant	0.9758*** (0.0273)	0.7980*** (0.0337)	1.2184*** (0.0545)
Adjusted R^2	0.4910	0.4723	0.1802
Number of observations	37,153	26,143	10,997

***= significant at 1% level (ie, p<0.01);
** = significant at 5% level (ie, p<0.05);
* = significant at 10% level (ie, p<0.10).

Notes:

1. A range of other control variables were also entered (results not shown here). These include: four qualification dummies; sixteen industry dummies; eight occupational dummies (reduced to three in the case of non-manual and five in the case of manual employees); six size of workplace dummies; and nineteen regional dummies (see Table A2 for details).

Source: pooled data from Spring 1997, Autumn 1997, Spring 1998 and Autumn 1998 Quarterly Labour Force Surveys, own calculations.

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TABLE 5:
CORRELATES OF PAY: MEN
(Ordinary Least Squares Regressions)

Variables	Employees (1)	Non-Manual Employees (2)	Manual Employees (3)
Work Location			
Mainly at home	-0.0756** (0.0365)	-0.0512 (0.0396)	-0.3335*** (0.1189)
Personal Controls			
Age	0.0534*** (0.0014)	0.0645*** (0.0023)	0.0487*** (0.0017)
Age squared	-5.9904×10^{-4}*** (1.7094×10^{-5})	-6.8616×10^{-4}*** (2.7540×10^{-5})	-5.6497×10^{-4}*** (2.1168×10^{-5})
Married	0.0670*** (0.0064)	0.0786*** (0.0095)	0.0515*** (0.0085)
Ethnic minority	-0.1201*** (0.0122)	-0.1101*** (0.0171)	-0.1098*** (0.0170)
Children under 16	0.0328*** (0.0064)	0.0220** (0.0092)	0.0308*** (0.0089)
Children under 5	0.0293*** (0.0083)	0.0349*** (0.0117)	0.0235** (0.0118)
Qualification dummies[1]	Yes	Yes	Yes
Employment-Related Controls			
Job tenure	0.0014*** (6.5936×10^{-5})	0.0010*** (9.7185×10^{-5})	0.0014*** (8.7753×10^{-5})
Job tenure squared	-1.7717×10^{-6}*** (1.6833×10^{-7})	-1.2331×10^{-6}*** (2.4801×10^{-7})	-1.9983×10^{-6}*** (2.2421×10^{-7})
Part-time	-0.0687*** (0.0101)	-0.0743*** (0.0154)	-0.0553*** (0.0130)
Private sector	-0.0185* (0.0095)	0.0045 (0.0135)	-0.0488*** (0.0130)
Industry dummies[1]	Yes	Yes	Yes
Occupational dummies[1]	Yes	Yes	Yes
Size of workplace dummies[1]	Yes	Yes	Yes

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Other Controls			
Regional dummies[1]	Yes	Yes	Yes
Constant	0.4869*** (0.0324)	0.2386*** (0.0507)	0.6226*** (0.0417)
Adjusted R^2	0.4953	0.4502	0.3143
Number of observations	35,865	18,373	17,166

***= significant at 1% level (ie, p<0.01);
** = significant at 5% level (ie, p<0.05);
* = significant at 10% level (ie, p<0.10).

Notes:

1. A range of other control variables were also entered (results not shown here). These include: four qualification dummies; sixteen industry dummies; eight occupational dummies (reduced to three in the case of non-manual and five in the case of manual employees); six size of workplace dummies; and nineteen regional dummies (see Table A2 for details).

Source: pooled data from Spring 1997, Autumn 1997, Spring 1998 and Autumn 1998 Quarterly Labour Force Surveys, own calculations.

TABLE 6:
EFFECT OF WORKING AT HOME ON PAY IN SELECTED OCCUPATIONS[1]

Occupation	Description	Number Working Mainly at Home in Sample	Pay Effect[2]	Significance
Standard Occupational Classification –Major Groups				
SOC1	Managers & Administrators	161	123%	***
SOC2	Professionals	46	68%	***
SOC3	Associate Professional & Technical	48	92%	ns
SOC4	Clerical & Secretarial	294	114%	***
SOC6	Personal & Protective Services	53	48%	***
Standard Occupational Classification –Minor Groups				
SOC12	Specialist Managers	89	114%	**
SOC41	Numerical Clerks & Cashiers	89	109%	*
SOC43	Clerks Not Elsewhere Classified	55	99%	ns
SOC45	Secretaries, PAs, Typists & Word Processors	122	131%	***

***= significant at 1% level (ie, $p<0.01$);
** = significant at 5% level (ie, $p<0.05$);
* = significant at 10% level (ie, $p<0.10$).

Notes:

1. In line with ONS advice (Sly, 1999; Jenkins, 1998) only those occupational groups with more than 40 pay observations for those working at home have been

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selected. Below this number the pay data are unreliable and may therefore give misleading results.

2. This was derived from running OLS regressions for each of the selected occupations. The same controls were used as in Tables 4 and 5 (except that the occupational controls were, by definition, dropped and a dummy variable for gender was entered). The column shows the wage gain (loss) working at home entails. This is expressed as a percentage of the predicted wage of those *not* mainly working at home.

Source: pooled data from Spring 1997, Autumn 1997, Spring 1998 and Autumn 1998 Quarterly Labour Force Surveys, own calculations.

TABLE 7:
CHANGES IN THE ODDS OF LOW PAY ASSOCIATED WITH WORKING AT HOME
(Logistic Regressions)

Type of Employee	Working at Home Coefficient[1]	Changing Odds of Low Pay[2]
Female employees	1.0830*** (0.1094)	2.95
Female non-manual employees	0.7178*** (0.1332)	2.05
Female manual employees	2.2833*** (0.2741)	9.86
Male employees	0.8330*** (0.2811)	2.30
Male non-manual employees	0.8469*** (0.3063)	2.33
Male manual employees	0.9409*** (0.7197)	2.56

***= significant at 1% level (ie, $p<0.01$);
** = significant at 5% level (ie, $p<0.05$);
* = significant at 10% level (ie, $p<0.10$).

Notes:

1. These were derived by running logistic regressions for each type of employee. The same controls were used as in Tables 4 and 5 with the addition of a dummy variable for working at home and a dummy variable for gender.
2. This column reports the changing odds of being low paid associated with working at home.

Source: pooled data from Spring 1997, Autumn 1997, Spring 1998 and Autumn 1998 Quarterly Labour Force Surveys, own calculations.

TABLE 8:
INFLUENCES ON THE ODDS OF WORKING AT HOME BY SELECTED CHARACTERISTICS
(Logistic Regressions)

Characteristic	Self-Employed	Employees	Non-Manual Employees	Manual Employees
Female	1.1862*** (0.1407)	0.8204*** (0.0908)	0.3973*** (0.1012)	2.5914*** (0.2553)
Children under 16	0.2176 (0.1365)	0.2286*** (0.0643)	0.2138*** (0.0711)	0.5456*** (0.1660)
Children under 5	-0.2022 (0.2817)	-0.2711 (0.1925)	-0.2228 (0.2008)	-0.8608 (0.7427)
Married	0.3487** (0.1595)	0.6026*** (0.0736)	0.8360*** (0.0898)	-0.1260 (0.1502)
Ethnic minority	-0.3980 (0.3862)	-1.1478*** (0.4166)	-0.9100** (0.4196)	-5.4593 (7.0592)
1-10 employees at establishment	1.1143** (0.4436)	2.3831*** (0.1968)	2.3080*** (0.2136)	2.7607*** (0.5133)
Over 50 employees at establishment	-0.1997* (0.6790)	-0.6868*** (0.2098)	-0.6277*** (0.2279)	-0.8660 (0.5438)
Part-time	0.9724*** (0.2575)	1.8958*** (0.1211)	1.8920*** (0.1343)	2.1795*** (0.3364)
Female & part-time	-0.4671 (0.2951)	-0.4806*** (0.1348)	-0.4107*** (0.1511)	-1.4817*** (0.3590)
Female & with children under 5	0.8289** (0.3419)	0.8093*** (0.2047)	0.7730*** (0.2161)	1.5153** (0.7583)
Female & ethnic minority	-0.6058 (0.6071)	1.4630*** (0.4396)	1.0963** (0.4580)	5.7914 (7.0626)

Features of model				
Other controls[1]	Yes	Yes	Yes	Yes
Constant	-3.6332*** (1.0115)	-6.6092*** (0.3585)	-8.1362*** (0.4315)	-5.6562*** (0.9942)
-2 Log Likelihood	2,925.964	14,759.579	11,554.314	4,508.533
Number of observations	8,209	220,331	134,196	86,135

***= significant at 1% level (ie, p<0.01);
** = significant at 5% level (ie, p<0.05);
* = significant at 10% level (ie, p<0.10).

Notes:

1. These coefficients were derived by running logistic regressions for each type of employment. The same controls were used as in Table 7 with the addition of interaction terms for gender and part-time work, gender and children under 5, and gender and ethnicity (see Table A2 for details).

Source: pooled data from Spring 1997, Autumn 1997, Spring 1998 and Autumn 1998 Quarterly Labour Force Surveys, own calculations.

TABLE A1:
DATA AVAILABILITY

Question[1]	Frequency
Mainly Work at Home '(In your main job) do you work mainly ... ✓ in your own home ✓ in the same grounds and buildings as your home ✓ in different places using home as a base ✓ or somewhere quite separate from home?'	Asked in 1981, then Spring and Autumn quarters from Spring 1992 to Winter 1996/7. Every quarter thereafter.
Partially Work at Home '(Although you do not work *mainly* at home), have you spent at least one FULL day in the seven days ending Sunday the (date) working ... ✓ in your own home ✓ in the same grounds and buildings as your home ✓ in different places using home as a base ✓ or not worked at home during reference week?'	Every Spring and Autumn quarters from Spring 1997 to Winter 1997/8. Asked only once a year thereafter – Spring quarter.
Sometimes Work at Home Do you ever do any paid or unpaid work at home for your (main) job? ✓ Yes ✓ No	Asked in Spring and Autumn quarters since Spring 1992 until Winter 1997/8. Asked only once a year thereafter – Spring quarter.
Other Relevant Variables Do you use both a telephone *and* a computer to carry out your work at home? ✓ Yes ✓ No	Every Spring and Autumn quarters from Spring 1997 to Winter 1997/8. Asked only once a year thereafter - Spring quarter.
Would it be possible to work at home (or use home as a base) without using both a telephone and a computer? ✓ Yes ✓ No	Every Spring and Autumn quarters from Spring 1997 to Winter 1997/8. Asked only once a year thereafter – Spring quarter.
From a number of questions a gross hourly pay variable is derived and supplied in the	Since Winter 1992/3, pay data were collected at people's fifth (and final)

LFS dataset.	interviews. LFS respondents are interviewed five times at quarterly intervals. Since Spring 1997, questions about pay have also been asked at respondents' first interviews. Pay data are only collected for those defining themselves as 'employees'. Pay questions are therefore asked of two-fifths of the quarterly LFS sample.

Note:

1. All of these questions, apart from those focused on pay, are also asked of respondents' second jobs.

TABLE A2:
VARIABLE DESCRIPTIONS

Variable[1]	Description
Log pay[2]	Log of gross hourly pay for employees in Waves 1 and 5 of the Spring 1997, Autumn 1997, Spring 1998 and Autumn 1998 QLFSs.
Mainly at home[3]	0/1: works mainly at home
Age	In years
Age squared	Years squared
Married	0/1
Ethnic minority	0/1
Children under 16	0/1: children (< 16) of head of household or their partner
Children under 5	0/1: children (< 5) of head of household or their partner
Qualification dummies	Options: degrees; other higher education qualifications; post-secondary; (secondary); no qualifications.
Job tenure	In months
Job tenure squared	Months squared
Part-time	0/1: part-time working as defined by respondent
Private sector	0/1: private sector employment
Industry dummies	Options: agriculture; fishing; mining; (manufacturing); electricity; construction; wholesale; hotels; transport; financial; real estate; public administration; education; health; other community; and private households.
Occupational dummies	Options: managerial; professional; associate professional; (clerical); craft; personal; sales; operative; other.
Size of workplace dummies	Options: 1-10 employees; 11-19 employees; (20-24 employees); don't know but under 25; 25-49 employees; don't know but over 24; and 50 or more.
Regional dummies	Options: Tyne & Wear; rest of North; South Yorkshire; West Yorkshire; Rest of Yorkshire & Humberside; (East Midlands); East Anglia; Inner London; Outer London; Rest of South East; South West; West Midlands; Rest of West Midlands; Greater Manchester; Merseyside; Rest of North West; Wales; Strathclyde; Rest of Scotland; and Northern Ireland.
Low pay[4]	0/1: hourly pay rates below £3.60.

Female[5]	0/1
Female & part-time[6]	0/1: female and working part-time as defined above.
Female & child under 5[7]	0/1: female with children (< 5) as defined above.
Female & ethnic minority[8]	0/1: female and ethnic minority.

Notes:

1. A value of '1' denotes the presence of that particular attribute. Base case for dummy variables are indicated by brackets in table. No of dummies = options – 1.
2. Dependent variable in regressions reported in Tables 4 and 5.
3. Independent variable in regression reported in Tables 4, 5, 6 and 7. Dependent variable in regressions reported in Table 8.
4. Dependent variable in regressions reported in Table 7.
5. Independent variable in Table 8; elsewhere sample split between women and men.
6. Independent variable in Table 8.
7. Independent variable in Table 8.
8. Independent variable in Table 8.

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